

Amendments to the Claims:

Please cancel claims 4 without prejudice or disclaimer of the subject matter contained therein, amend the claims as follows, and add the following new claims.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An X-ray detector comprising:

(1) an X-ray sensitive module having a plurality of X-ray detecting elements having a scintillator converting an X-ray to a light and transparent means optically connected to a light output surface of said scintillator transmitting an output light from said scintillator located integrally in a two-dimensional manner via optical reflecting means in a-first and a-second directions;

(2) a photo-electric module in which photo-electric means located in a two-dimensional manner corresponding to said transparent means of said X-ray detecting elements converting an output light outputted from said scintillator via said transparent means to an electric signal, a first data line reading out said electric signal, a first addressing line addressing said photo-electric means reading out said electric signal, and electrode pads forming part of said first data line or/and said first addressing line are formed, a light output surface of said transparent means is optically connected to said photo-electric means, ~~the area of said photo-electric means positioned on the edge in said first direction is formed to be smaller than that of said photo-electric means positioned in other positions, said electrode pads are formed near an end surface on which said transparent means is not mounted, and a plurality of said X-ray sensitive modules are mounted to be adjacent to each other in said first or said second direction;~~

(3) a distribution module in which a second data line connected to said first data line reading out said electric signal and a second addressing line connected to said first addressing line addressing said photo-electric means reading out said electric signal are formed, and a plurality of said photo-electric modules are mounted; and

(4) module wiring means electrically connecting said electrode pads of said photo-electric modules adjacent to each other, or/and said electrode pad and said second data line, or/and said electrode pad and said second addressing line;

wherein, in at least one of said transparent means, an area of the light output surface thereof which is optically connected to said photo-electric means is smaller than an area of a light input surface thereof upon which light from said scintillator is incident.

2. (currently amended) The X-ray detector according to claim 1, wherein said transparent means is made of a resin layer which has a thickness smaller than that of said scintillator, has optical transmittance higher than that of said scintillator and is stable to an X-ray, and said at least one of said transparent means has a shape in which an angle θ of a normal vector at an arbitrary point of between a surface except for a adjacent the light input surface from said scintillator and an output surface of said resin layer and a normal vector of said and the light input surface or said output surface is $45^\circ \leq \theta < 90^\circ$.

3. (original) The X-ray detector according to claim 2, wherein said resin layer is made of an epoxy resin layer.

Claim 4 (canceled)

5. (currently amended) An X-ray CT apparatus comprising:

an X-ray tube generating an X-ray;

a plurality of X-ray detectors according to any one of claims 1 to [[4]] 3

located in an arc in said second direction opposite said first X-ray tube;

a detector control circuit producing a control signal for addressing said photo-electric means reading out said electric signal of said X-ray detector and inputting it to said second addressing line;

a data acquisition system acquiring said electric signals outputted from said second data line to convert them to digital data;

arithmetic processing means performing arithmetic processing said digital data; and

an image display unit displaying the result of said arithmetic processing.

6. (original) The X-ray CT apparatus according to claim 5, wherein said data acquisition system has data correcting means correcting said analog electric signal from said photo-electric means corresponding to part or all of said X-ray detecting elements, or said digital data obtained by converting said analog electric signal.

7. (currently amended) An X-ray imaging system comprising:

an X-ray tube generating an X-ray;

one or more X-ray detectors according to any one of claims 1 to [[4]] 3

located opposite said X-ray tube;

a detector control circuit producing a control signal for addressing said photo-electric means reading out said electric signal of said X-ray detector and inputting it to a second addressing line;

a data acquisition system acquiring said electric signals outputted from said second data line to convert them to digital data; and
an image display unit displaying said digital data.

8. (original) The X-ray imaging system according to claim 7, wherein said data acquisition system has data correcting means correcting said analog electric signal from said photo-electric means corresponding to part or all of said X-ray detecting elements of said X-ray detector, or said digital data obtained by converting said analog electric signal.

9. (new) The X-ray detector according to claim 1, wherein said surface adjacent to the light input surface of said at least one of said transparent means is a linear surface.

10. (new) The X-ray detector according to claim 1, wherein said surface adjacent to the light input surface of said at least one of said transparent means is a non-linear surface.

11. (new) The X-ray detector according to claim 1, wherein said transparent means is made of a resin layer which has a thickness smaller than a thickness of said scintillator, has an optical transmittance higher than an optical transmittance of said scintillator and is stable to an X-ray, and at least one of said

transparent means has a shape in which an angle between a normal vector extending from an arbitrary point of a surface adjacent the light input surface thereof and a normal vector extending from the light input surface thereof is at least 45° and less than 90°.

12. (new) The X-ray detector according to claim 11, wherein said resin layer is made of an epoxy resin layer.

13. (new) The X-ray detector according to claim 11, wherein said surface adjacent to the light input surface of said at least one of said transparent means is a linear surface.

14. (new) The X-ray detector according to claim 11, wherein said surface adjacent to the light input surface of said at least one of said transparent means is a non-linear surface.